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1970

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Live Steam

THE MONTHLY MAGAZINE FOR ALL LIVE STEAMERS AND LARGE-SCALE MODEL RAILROADERS

in this issue

Steam Boats Steam Meets Steam Construction

Live Steam magazine

FEBRUARY 1970 VOL. 4 NO. 2

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COVER PHOTO

The WREN, built by Chris Sheppard, brings the "Good Ol' Days" back to Lake Hamilton near Hot Springs, Arkansas. Photo by Curry Studio.

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The Return of the Riverboat

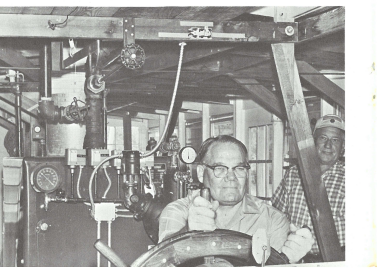
For Chris Sheppard it is almost like a dream... *the muffled sound of the Lake's rippled surface breaking against the bow; the measured beat of the steam engines' exhausts; the continuous thrashing of the paddle wheel at the stern.* Surprisingly, though, this is the very way it all began... a small boy's trip to St. Louis; an outing on a big stern-wheel river boat; the sounds which have again become familiar; the dreams that only a boy's imagination can produce – piloting "my own" river boat someday!

Young boys, though, have many dreams and, as the pace of life quickens, the events become blurred memories of schools, wars, twenty-five years of roaring aircraft engines, promotion to Lt. Colonel in the Air Force and then retirement.

Chris returned to his native Arkansas, to live near Hot Springs on Lake Hamilton with his mother and a sister. The site was perfect and it wasn't long before he was visiting libraries and museums where he could learn more and more about the design and operation of the old riverboats. After a most pleasant two-year period he had made his own design drawings, determined his material requirements and was ready to begin construction.

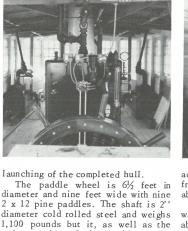
The hull was started bottom-up on the lawn near the water's edge using pressure-treated Arkansas yellow pine 2 x 12's. When that phase was completed, it was then turned over and placed on three steel beams which projected one-third of their length over the water to facilitate launching. The structural bracing and hull sides were all put in place there and upon completion skidded off the I-beams into the water.

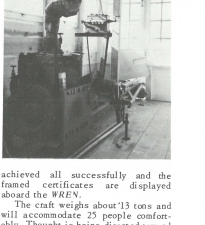
For two and a half years, Chris worked at his project. A single-note locomotive whistle and a bell were secured – their music to roll across Lake Hamilton and echo back from the mountains. The steam engine came from a 120-ton railroad wrecking crane of the type recently acquired by the Steam Railroad Restoration Society from the DT&I Railroad (LS 8/69). It, too, has 12" x 12" cylinders, Stephenson valve gear and was built by the Industrial Brownhoist Company in Bay City, Michigan, sometime prior



Curry Studio

Chris Sheppard at the wheel (1) of the *WREN* with neighbor Andy Konieczny standing by. From the forward deck a look toward the stern (2) shows the wheel, boiler and cylinders. A view of one of the cylinders (3) shows the main steam line, reverse link, eccentric rod and lubricator. Force feed lubricator is driven by a rod connected to the cross head.





to 1910 according to records.

The boiler is one portion that carries no history. Built by Bryan Steam Corporation in Peru, Indiana, the 25 HP unit is a modern, automatically maintaining proper water level, steam pressure and control of the propane burner. The 200-gallon propane tank on the forward deck provides sufficient fuel for about 25 hours of operation at a speed of 5 to 6 knots.

Work on the superstructure was delayed for a time when it was discovered that not one but two families of Wrens had set up house-keeping in the frameworkl Only after the "young 'uns" had hatched and found their way out into the world, did work continue on that part of the ship, and memories of that interlude are perpetuated in the steamboat's name, the *WREN*.

The *WREN* stands as witness to the versatile craftsmanship of Chris Sheppard, for he handled all the carpentry, steam fitting, iron work, electrical work and painting with only an occasional assist from a neighbor during the assembly and installation of the paddle wheel and at the time of launching of the completed hull.

The paddle wheel is 6½ feet in diameter and nine feet wide with nine 2 x 12 pine paddles. The shaft is 2" diameter cold rolled steel and weighs 1,100 pounds but it, as well as the major portion of the machine work, was handled by Chris in his home workshop. Only a couple operations proved too involved for his equipment and had to be farmed out.

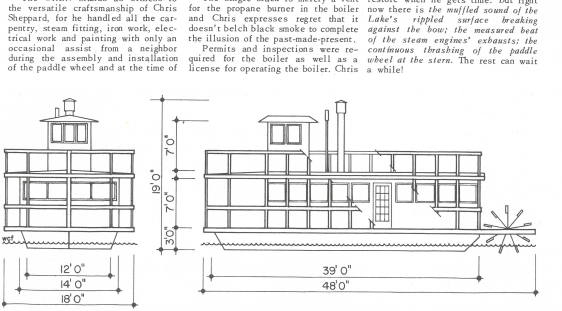
A typical winter project was the ship's wheel which was produced in his shop. It is three feet in diameter, made of local black walnut and inlaid with white holly plugs over the assembly screws. It controls two seven-foot rudders at the stern for normal operation, but a 70 HP outboard motor is available for maneuvering in the confines of the cove where the *WREN* is moored.

The single stack is merely a vent for the propane burner in the boiler and Chris expresses regret that it doesn't belch black smoke to complete the illusion of the past-made-present.

Permits and inspections were required for the boiler as well as a license for operating the boiler. Chris achieved all successfully and the framed certificates are displayed aboard the *WREN*.

The craft weighs about 13 tons and will accommodate 25 people comfortably. Thought is being directed toward operating a short-trip passenger service on Lake Hamilton out of Hot Springs, but no details have been completed at this time. So far it has been used strictly as a pleasure boat for family and friends, and a few Live Steamers who have been fortunate enough to be on deck at "cruise time."

What's ahead? Chris is now looking for a steam caliope, either in operating order or in restorable condition that will let him complete the sounds of the old Riverboats. Then there is the antique Live Steam miniature locomotive at his home which he plans to restore when he gets time. But right now there is *the muffled sound of the Lake's rippled surface breaking against the bow; the measured beat of the steam engines' exhausts; the continuous thrashing of the paddle wheel at the stern.* The rest can wait a while!



DRILLS AND DRILLING *for the apprentice*

by Jack D. McKenty, M.D.

Part 2

I hate to disillusion you, but a drill is only a roughing tool. The table last month, with sizes to four decimal places, gave the size of the drills, not the size of the holes they make. It is possible (using extreme care, special techniques, and specially sharpened drills) to drill a hole that the drill will be a snug fit in afterward, but generally speaking, if a hole must be dead to size, something other than a drill must be used to finish it. Sorry about that!

The actual technique of drilling is quite simple. The revolving drill is applied to the work, pressure is applied, and the thing is done. There are a few little details.

Locating Holes

The drill bit must have a place to start from; if it is applied to an absolutely flat surface it will "walk" across the surface and begin the hole at some location other than the desired one. The starting place is provided by a center punch. This makes a shallow dent on the work which keeps the drill at the right location.

Care must be taken to have the punch mark centered under the bit in the drill press (or the hand or electric drill centered with the punch mark if you are doing it that way). Drills are flexible, within limits. If the hole is started off center the drill will carry on at an angle, until it gets too deep and breaks. Even if it doesn't break, the finished hole will not be square with the surface.

The work may be held loosely on the drill press table and be allowed to "float" into position by lightly applying the drill to it. The drill centers the work. The work is then held tightly or clamped, and the hole completed.

Large Holes

The chisel end of a large drill bit (say 1/4" or more) is too large to fit in the punch mark, and may walk around as on a flat surface. In addition, the pressure required to force a large diameter drill into solid metal may be more than you wish to apply. It is best to start a large hole with a small drill, and then drill a series of holes each a few 32nd's larger than the one before, until full size is reached.

Starting small and working up also has another advantage: it gives an opportunity to correct the location of the hole if it is a little off.

Before starting, a circle the diameter of the desired hole is drawn on the work. If the intermediate sizes prove to be off center, the hole can be brought over with a file. The hole is then finish-drilled where it should be.

Note that in addition to changing the drill bits as you go along, you must also keep reducing the speed. (If you are using the drill press. With an electric drill you are usually stuck with one speed for everything.) Machinery handbooks give elaborate tables of speeds and feeds for all materials. Forget them. Use the highest speed for the smallest drills and vise versa. If in doubt, reduce the speed.

As a general rule, if the cuttings come out as long spirals the speed is too low. The spirals look very pretty, but small chips are safer and easier on the drill. Interrupting the feed at intervals breaks up any spirals. Short ones don't whip around and strip skin from your arm the way long spirals do.

If the drill bit seems to spin in the hole without doing much cutting, the speed is too high. Reduce it. Applying pressure at too high a speed will cause the end of the drill to turn red and change into a mushroom shape.

Deep Holes

A deep hole is any hole deeper than three drill diameters. Example: 1½" deep for a ½" drill; about 3/8" for a #30. No problem; merely back the drill out of the hole frequently to clear the chips out of the flutes. Keep doing this and you can drill the full length of the drill. If you don't do this the chips will bind the drill and break it.

Blind Holes

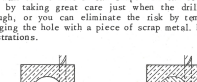
A blind hole is one which doesn't go all the way through the work. Also no problem; just quit when you are deep enough. If the depth is critical, the depth stop provided on most drill presses is called into action. Bring the stationary drill down to the work and note the setting on the depth indicator. Adjust the stop the required amount more and carry on.

Or bring the drill the required distance down *beside* the work; note the setting and adjust to it.

Or make a little collar with a set screw, and fasten it on the drill at the right distance. Or make a line around the drill at the proper distance from the point with a felt tip pen, and drill to the line. No problem.

Drilling Into a Cavity

This *can* be a problem. If the drill breaks into the cavity at a place where it is only partly supported by the wall of the hole it can snap. You can reduce the risk by taking great care just when the drill breaks through, or you can eliminate the risk by temporarily plugging the hole with a piece of scrap metal. Note the illustrations.



no plug *no problem*

Angle Drilling

If a hole must be drilled starting from a sloping surface, the ordinary center punch mark may not prevent the drill from sliding downhill and breaking. There are several ways of dealing with this.

Sometimes it is possible to file a small flat place to start from. Or, with the work clamped in position, a small end-mill can be used first. An end-mill is rather like a square-ended drill, except that it is shorter and stiffer, and it will cut on its sides as well as the end. A size not much larger than the desired hole is used, and it should not go any deeper than is necessary to provide a flat spot to start the drill.

The disadvantage with either of these methods is that the original center punch mark is lost, and must be made again. Accuracy may be lost, too.

A cheap and dirty method is to drill a short hole perpendicular to the surface at the punch mark; the hole need not be any deeper than the drill diameter. The work can then be positioned properly for the angled hole, and the drill will not slip when starting. Some accuracy is lost with this method as well.

The best way is to have the work positioned properly in the first place, and make a pilot hole using a center drill. A center drill is a short, stiff drill used in lathe work to make 60° center holes for turning between centers, and as a starting drill in the tailstock drill chuck. It is like an end-mill in that it will not bend. Instead of milling a flat, like the end-mill, it starts an actual drilled hole. After a very short distance, it is withdrawn and the hole completed in the usual way.

The center drill is also used as a starting drill on a rough surface. Some purists start all their holes with a center drill. Fussy.

Sheet Metal

There are two problems drilling sheet metal. First: The drill tends to catch the work when it breaks through and spins it around, thus cutting off several fingers. Second: Large diameter drills tend to chatter, and leave polygonal holes rather than round ones. The cure for both problems: Put a piece of scrap wood under the metal, and clamp the whole arrangement securely to the table. You get a round hole, and no lost-time accidents.

Countersinking

In order that a flat-head screw may be installed flush with the surface, a countersink must be used. These are not expensive, but make sure you get one for use on metal. A carbon steel countersink meant for use on wood will not hold up to our trade.

Countersinks are usually designed with an odd number of flutes to minimize chattering. They will chatter anyway if the feed pressure is light. Use a lot of pressure when countersinking, or there will be another multi-sided hole.

When a drill breaks through the work, it usually leaves a sharp ridge of metal around the hole. This ridge must be removed to permit parts to fit properly, or bolt heads to seat tight on the work. The countersink may be used to remove this ridge.

It is not necessary to do this in the drill press. I use a pin chuck. This is a 1/4" chuck on a wooden handle. With the countersink in place in it, two or three twists removes the ridge and leaves a tiny chamfer in the hole. This is so handy that my countersink remains in the pin chuck at all times for ridge removal purposes. I only take it out when I have some actual countersinking to do.

A larger diameter drill than the one that made the hole can also be used for removing ridges, but it cannot make genuine countersink holes. The "included angle" on a drill is about 118°. Countersinks and the heads of flat screws have an included angle of 90°.

Drilling Round Work

There is no problem starting a hole from a center punch mark on a piece of rod. The difficulty is in making sure the hole goes straight across, with no short cuts. Unless you are careful, you will get a short cut every time.

One way of avoiding this is to use a "V block". This is a square chunk of metal with one or more V's running across it. The blocks usually come in matched pairs, with little clamps for holding work in them. A block is positioned in the drill press table so that the drill comes down to the center of the V. Without moving the block, the rod is then positioned in it so the punch mark is under the drill. The hole may then be drilled across the true diameter.

This is the theory. In practice, it is not usually possible to clamp the V block in place on the table. So one hand has to hold the V block and the other holds the workpiece, leaving only your chin to work the feed lever.

A better way is to use the drill press vise. The jaws of the vise are adjusted to a size somewhat smaller than the work diameter, and the vise is positioned so the drill comes down mid-way between the jaws. Clamp the vise to the table in that position, bring the drill down again, and check that it is truly central using a rule. The work may then be laid in the gap between the jaws and the punch mark brought under the drill. Holding it in position with one hand is then no problem.

Sharpening Drills

The business end of a drill is geometrically quite complex, and it is difficult to resharpen without special equipment. Unless both sides are identical, it will cut much larger holes than it is supposed to.

There are many old-timers that claim they can sharpen drills accurately by hand. I wouldn't doubt them for the world, but they undoubtedly reduced a handful of crankshaft drills to stubs while they were learning how.

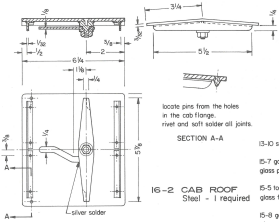
Small diameter drills are comparatively cheap to replace, but the larger diameters run into money. A special holder is available from Sears for use with a bench grinder to resharpen drills. Instructions come with it. It is not perfect; it does not completely reproduce the original geometry of the drill but it does salvage what would otherwise be an expensive loss.

And I only reduced a few jobbers length drills to screw machine size while I was practicing with it!

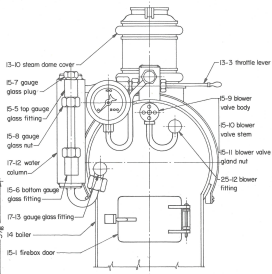
building the RARITAN

by William H. Morewood

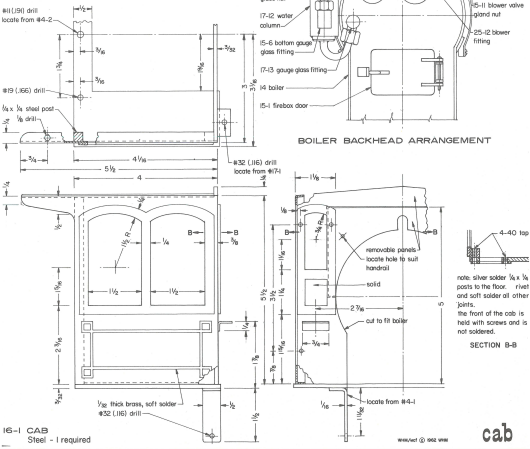
The main point to watch for in building the Cab (16–1) for your *RARITAN* is to see that the floor is parallel to the top of the frame and then drill the holes for the two 4–40 supporting screws. Check the height of the running board brackets; they should be the same height above the frame as the pads on part 8–1.



16-2 CAB ROOF
Steel - 1 required

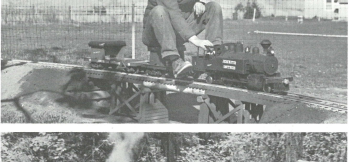


BOILER BACKHEAD ARRANGEMENT



16-1 CAB
Steel - 1 required

cab



Summer of activity for Inland Empire Live Steamers

by Ivan Ergish
Acting Secretary

PHOTOS 1 AND 4 BY IVAN ERGISH
PHOTOS 2 AND 3 BY JOHN LEONARD

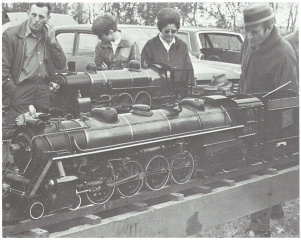
The Inland Empire Live Steamers enjoyed a seven-month season of good steaming from March 23rd until the 19th of October along the Idaho-Washington State line.

Lee Tillotson's *Elk River* portable trackage was set up at steam thrashing bees near Orofino, Idaho, and near Spokane, Washington during the summer and the operating 1" scale engines proved to be a big attraction.

Rebuilding Al Chapman's *Idaho Short Line* to dual gauge was the largest single project for the club, and now provides for both 3½" and 4¼" equipment. Several work parties were held to lay the third rail which was finished by Lee Tillotson.

There is going to be good need for trackage when the list of projects is noted: Norm Hochholter is building an 0–6–0 and logging donkey engine and has just completed a caboose; Lee Tillotson has completed the tender for his 0–6–0; Fred Nitschke is building an 0–4–0 and a 2–8–0; Eugene Hawk is busy on his 2–6–2; Richard Smith is building an 0–6–0 for his *Gilmore & Potlatch RR*; Doug Smith has built a flat car and purchased a Pacific; A. L. Dekken was transferred twice this year but is now back to work on his Atlantic; Ivan Ergish built a gas-powered inspection car, added a two-stall engine house to his *Jerkwater Southern* and is coming along well with his 2–4–0; L. W. "Barney" Barningham finished a flat car and caboose for his *Mobile Line* and has started a Pacific and Ed Grant is working on a boiler for the 4–4–0 chassis that he purchased... all of this in 1" scale! Ted Green is progressing well with his 1½" 4–4–0.

During the summer, cameras caught Richard Smith (1) with Ivan Ergish's *Jerkwater Southern* 2–6–2 on Al Chapman's dual gauge track; Ken Leonard (2) with the gas-powered inspection car on the *Jerkwater Southern* iron; Ivan Ergish (3) at the throttle of his #1 on the home track; and Al Chapman (center) driving the last spike (4) on his now dual gauge *Idaho Short Line* as Eugene Hawk (1) and Richard Smith (r) prepare to touch couplers signalling the end of work and the end of the season.



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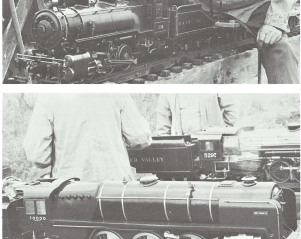

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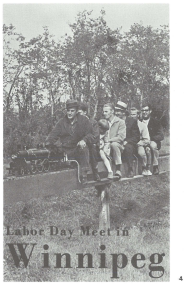

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Labor Day Meet in Winnipeg

Report by Paul Winslow, Secretary
Red River Valley Railroad

PHOTOS BY H. E. BRAKKE

The annual Labor Day Meet turned out to be quite a success with the weatherman cooperating quite well. No less than eight engines were operating over the weekend and lots of "tonnage" was handled in the form of interested onlookers who happened by the track.

Out-of-town guests included Hue Brakke, Don Strom and Lee Teske of Minnesota and Hue's "Green Goddess" and Don's NKP 2–8–4 operated admirably on the 3½" track.

RRVR Members' engines which were operating included Paul Winslow's ¾" CNR 4–8–4 (1) and Bert Maisey's 1" Pacific. While Bob Robson (1) contemplates and Bert Maisey (r) investigates, the two charming ladies in between remain unidentified but not unnoticed. Carl Hansen's ¾" 0–5–0 (2) gets a last-minute check on the steaming track from Carl's nephew while Bob Robson's *Brittania* (3) and Jack Kerr's ¾" NYC Hudson wait to be steamed up. Jack Collier's 1" 0–4–0T also did its share of steaming.

Bert Maisey's new 1" Pacific (4) has just been put into operation but still lacks the tender. No Live Steamer is ever daunted by such a minor detail. A Javex bottle for water and a basket for coal, Bert at the throttle and seven passengers for tonnage and no one even noticed as the 4–6–2 put in a fine performance on the 5" track!

PART ONE

PLUMBING

SO YOU WANT TO BUILD A LIVE STEAM LOCOMOTIVE

CHAPTER 13

by Joseph F. Nelson

PLUMBING

Since the movement of water and steam, and even oil, from one place to another is necessary to the operation of a locomotive, pipes, tubing, and hoses are, of course, needed. This means that these pipes and tubes must be connected to each other. This calls for threaded or soldered connections (fittings). Now, in order to control the flow of liquid or steam through these pipes, valves of various types are needed. This is, of course, an oversimplification, but it is what is referred to as "plumbing."

Pipe sizes are somewhat confusing since nominal pipe size has little or no relation to its outside diameter. Hard drawn copper tubing sizes are given two ways: nominal size which is the inside diameter, and the outside diameter. Soft drawn copper tubing, which comes in coils, is dimensioned as "O.D." (outside diameter). The needs of the Live Steam locomotive (3/4" or 1½" scale) in plumbing, will run from 1/8" tubing to about ½" pipe. Boiler tubes may run as large as 1" O.D.

THREADS

In the past, it has been the practice to use straight National Extra Fine (NEF) threads on copper tubing, and where pipe was used for larger sizes, the standard taper pipe thread was used. The use of the straight NEF thread caused many novice locomotive builders problems, since having heard about pipe joint compound, they would smear it on straight tubing threads and expect it to hold 100 PSIG water and/or steam pressure. IT WON'T WORK! Pipe "goop" is intended for taper threads and not straight threads!! All straight thread joints that carry water, steam or oil under pressure must be sweat together (soldered) to prevent leaks. Where pipe or tubing assemblies are installed and unions are impractical, a "field joint" is recommended. It is made by drilling out the threads of the fitting and sweating the tubing into fitting with 95–5 solder. This permits easy removal of a silver soldered tubing assembly. Since smokebox temperatures run about 600°F., soft solder should never be used in that locality. Use silver solder, flare fittings, and/or taper pipe threads.

THREAD TABLES

For those who use straight thread for plumbing, taps, dies, and fittings are available at Little Engines in Lomita, California and Cole's Power Models in Ventura, California. Model taper taps, dies and fittings may be procured at Cole's Power Models.

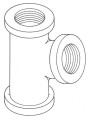
SIZE		O. D.	THREADS PER INCH	TAP DRILL	DECIMAL
1/8"	straight	.125"	40	39	.0995"
5/32"	straight	.156"	36	29	.1360"
3/16"	straight	.187"	32	24	.1520"
1/4"	straight	.250"	32	2	.2210"
1/8"	3/4" taper	.125"	56	42	.0935"
5/32"	3/4" taper	.156"	48	30	.1285"
3/16"	3/4" taper	.187"	40	23	.1540"
1/4"	3/4" taper	.250"	40	5	.2055"
5/16"	3/4" taper	.313"	27	F	.2570"
1/16"	Standard Pipe	.313"	27	F	.2570"
1/8"	Standard Pipe	.405"	27	R	.3390"
1/4"	Standard Pipe	.540"	18	7/16"	.4375"
3/8"	Standard Pipe	.675"	18	37/64"	.5781"
1/2"	Standard Pipe	.840"	14	23/32"	.7186"

STANDARD PIPE FITTINGS

Standard pipe fittings are made of most metals in American Standard & Dryseal Pipe Thread sizes. For Live Steam locomotives, since pressures are low, the fittings – brass or malleable iron – should be purchased for 150-pound steam service. Where either straight thread or taper thread model fittings are used, brass is the only choice. This is good since brass is relatively noncorrosive and can be easily soldered. Some builders do it the hard way and make everything to absolute scale. They will use thin wall stainless steel tubing to keep the outside diameter of the tubing to scale, yet, have the inside of the tubing large enough to obtain maximum flow. Some modelers have even made fittings of stainless steel; however, brass fittings with the threads drilled out and soft soldered or silver soldered to the tubes will be satisfactory. As a word of caution, silver soldering of stainless steel and also free machining brass can be erratic if the surfaces are not perfectly clean. Drawn surfaces, like the outside of stainless steel tubing should be worked over with emery cloth to make certain that the silver solder will adhere to the stainless steel. Wash free machining brass in Energine or M.E.K.

90° ELBOW

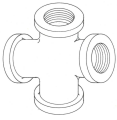
45° ELBOW



STRAIGHT TEE

90° STREET ELBOW

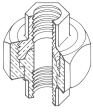
45° STREET ELBOW



CROSS

REDUCER

COUPLING



UNION

HEX BUSHING

PLUG

CAP

STANDARD PIPE FITTINGS

Dual Gauge in Colorado

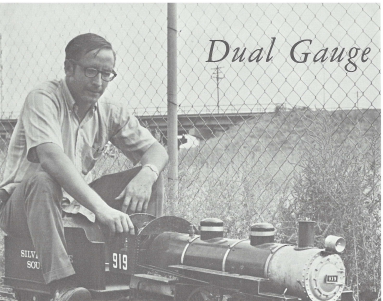
by R. KENT BOLERJACK, President
Colorado Live Steamers, Inc.

When two October snowstorms dumped over two feet of the white stuff on Denver, trackwork stopped for the season! Club members, though, are spending the winter months working on their engines because much of the track is ready for running in the spring and they want to be ready.

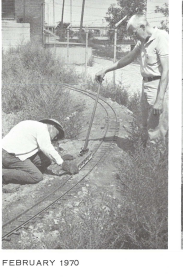
The Colorado Live Steamers, Inc., held its first meeting on January 19th, and in less than a year had a dollar-a-year site at the Forney Museum of Transport and 900 feet of track laid, ready to be finished up as soon as the spring thaws come.

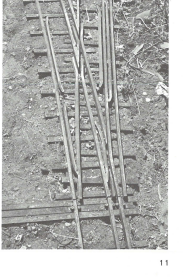
3/4" x 3/8" steel channel of 9" length serves as ties and is welded to the same material turned on edge for rail. Five stub switches will be required in the final track, three of which have already been fabricated by Milt Fick and Jerry Gutshall and installed at the site. Most of the tangent track was fabricated with three rails (3½" and 4½" gauge) but the curved sections were built as two-rail with the third rail to be added after installation. That work and the turntable will be the projects for 1970.

The Colorado Live Steamers are appreciative of the response from clubs all around the country to a questionnaire sent out last spring. Their comments on club operations proved many valuable ideas and much inspiration.



A rare site up to this time (1) since all activity has been work – but John Hill of Denver couldn't resist bringing his 1" 4-4-2 to the track! The track crew (2) consists of Jerry Cutshall (l) checking for kinks with a level while Milt Fick (r) makes necessary adjustments with a conduit bender. As work progresses (3) they catch up to J. B. Squires (r) and get ready to check out their work with one of Stan Galloway's Track Maintenance Wagons described in LIVE STEAM Magazine back in April 1967. Those dual-gauge switches (4) were a lot of work to build but those railheads will have quite a polish by the end of 1970 running season!





RAILROAD SUPPLY CORPORATION ENTERS FIELD

As of January 1st, 1970, Railroad Supply Corporation is open for business at 115 South Victory Boulevard in Burbank, California.

President of the new firm is Chester G. Peterson who has served as President of the Los Angeles Live Steamers. Vice President is Winton F. Brown who many Live Steamers will recognize as head of Winton Engineering Company in Danville, California. Winton has served as President of the Golden Gate Live Steamers and has been a manufacturer of model railroad and Live Steam equipment for many years. D. Wade Hurst, a member of the LALS Board of Directors, will serve as General Manager of the new firm.

Filling out the seven-man Board of Directors of Railroad Supply Corporation will be Omar B. Milligan, an active Live Steamer of Oklahoma City, Oklahoma; Live Steamer W. Harry Harper, who also heads the office furniture firm, Harper's of California; Arthur G. Andresen, Assistant Superintendent of the Los Angeles Schools; and Howard G. Sonksen, an attorney and the firm's legal counsel.

In addition to the entire line of Winton 1½" and 3½" scale Live Steam equipment, the firm will offer a series of passenger car kits that Chet Peterson has been developing along with the Bowlus Diesel engine and other 1½" scale equipment.

A 2½" scale narrow-gauge 2-8-0 is in the tooling process and will be formally presented as soon as orders can be accepted. The new Consolidation will run on 1½" scale track.

Winton Brown will handle new product research and development at his shop in Danville, California... and several new items are well along in that department! They will be announced as they are completed.

Particular emphasis will be placed on a wide line of accessories and supplies for all phases of Live Steam construction and operation.

A catalog is in preparation but is not yet available for distribution. Notice will be given as soon as it is ready.

APRIL MEET IN FLORIDA

The week end of April 18th and 19th is scheduled as the first meet at the new 1½" scale facilities of E. J. Pruitt in North Palm Beach, Florida, and all Live Steamers are invited.

Operations are scheduled to begin at noon on Saturday and conclude on Sunday at whatever hour the visitors care to leave.

On Saturday evening there will be a banquet and the guest speaker will by Winton F. Brown of Railroad Supply Corporation. Live Steam oriented slides and movies will complete the evening's entertainment. The cost for the dinner will be $3.35 per person and a "baby-sitting" service will be provided for care of youngsters that may prefer not to attend the banquet.

Live Steamers are urged to bring their equipment and to operate it if it conforms to the LALS standards as published on page 12 of LIVE STEAM Magazine for September 1969. Display facilities will be provided for all other equipment, and it would be appreciated if notice is made in advance of your arrival. It should be noted, too, that equipment must be able to pass through 40' radius curves. Propane fuel will be readily available, but if your engine burns coal or oil, be sure to bring enough for your operation.

There will be a registration fee of $4.50 for men, $2.50 for women and $1.00 for children.

For further information about the meet or for data about near-by motels, write to E. J. Pruitt, 501 Northlake Boulevard, North Palm Beach, Florida.

STEAMER HOSPITALIZED

Many of us at one time or another have run up against an MD who turns DS and has us shunted in on a siding for repairs of one type or another. We know how slowly the times goes by during these periods and how welcome some new reading material can be!

Tom Phillips, one of the mainstays of the Rebel Live Steamers in Georgia, finds himself in that spot and it would help him while away some of those slow hours if you would drop him a line about your Live Steam activities.

Why not send him a picture of your pet project and some of the news from your part of the country? Copies of recent bulletins from the Live Steam Clubs would be interesting too.

Brighten Tom's day (and yours too!) by sending it to:

Thomas Phillips, Sr.
2933 Peabody Avenue
Columbus, Georgia 31904

PRINTERS' PROMISES

FRIENDS MODELS in Topsfield, Massachusetts, exhausted their supply of Catalog #5 and went back to their regular printer for a reprint. The work involved turned out to be more than that in producing a new catalog and they still have nothing to send out. They are working with a new printer now and hope to be able to fill their orders for catalogs shortly.

CANADIAN NATIONAL STEAM POWER, a new book announced by Bill Dykeman of Bathurst, New Brunswick, was originally ready for shipment in June...then August...then September...but on December 15th they were still not ready!

CALDWELL INDUSTRIES went all-out for a new catalog and timed their advertising in the October issue of LIVE STEAM Magazine to coincide with the printer's promised delivery. As of January 2nd, they were to be ready "next week."

Promises, Promises, Promises.

FULL-SIZE DRAWINGS AND CASTINGS FOR
building the RARITAN
for additional information write
William H. Morewood
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PERRIS
TOM SENIOR
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Oakville, Ontario - 844-6418
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Scheduled Meets

April

10 MID-SOUTH LIVE STEAMERS
11 7½" gauge
12 Austin F. Barr, Jr. track
Junction of Highways 1 and 214 at Whitehall
Route 2
Harrisburg, Arkansas 72432

18 FLORIDA LIVE STEAM MEET
19 7½" Gauge, L.A.L.S. Standards
E. J. Pruitt
501 Northlake Boulevard
North Palm Beach, Florida

May

29 BLS NATIONAL MEET
30 Los Angeles Live Steamers
31 Griffith Park
3½" – 4¼" – 7½" gauges
Joel Corbin, Secretary
12723 Kittridge Street
North Hollywood, CA 91606

June

6 IOWA MODEL STEAM
7 ENGINEERS
3½" – 4¼" – 7½" gauges
Pershing G. Scott
R.F.D. 1
Marion, Iowa 52302

September

12 IOWA MODEL STEAM
13 ENGINEERS
3½" – 4¼" – 7½" gauges
Pershing G. Scott
R.F.D. 1
Marion, Iowa 52302

Regular Run Days

GOLDEN GATE LIVE STEAMERS
Every Sunday weather permitting
2½" – 3½" – 4¼" – 7½"
Gordon French, Secretary
614 18th Avenue
Menlo Park, Calif. 94025
Phone 415 – 323-4209

JAMUL VALLEY RAILROAD
3rd Sunday each month
7½" gauge
Harry F. Haas
Route 1, Box 47-A
Jamul, California 92035

LOS ANGELES LIVE STEAMERS
1st Sunday each month
3½" – 4¼" – 7½"
Joel Corbin, Secretary
12723 Kittridge Street
North Hollywood, Calif. 91606

MONTREAL LIVE STEAMERS
1st Sunday of each month
3½" – 4¼" – 7¼" gauges
S. H. Galloway, Secretary
53 Beaconsfield Road
Beurepaire, Quebec, Canada

PIONEER VALLEY LIVE STEAMERS
2nd Sunday each month
3½" – 4¼" – 7½"
Brenton W. Barnfather, Secretary
3 Fleetwood Drive
Sandy Hook, Conn. 06482

RAILROADERS CLUB OF SAN ANTONIO
3rd Sunday each month,
weather permitting
7½" gauge
Ces Beck
2626 McCullough Avenue
San Antonio, Texas 78212

RIVERSIDE LIVE STEAMERS
4th Saturday-Sunday each month
Hunter Park-Iowa & Columbia Ave.
Riverside, California
Francis H. Smith, Secretary
5536 Dewey Avenue
Riverside, California 92504
Phone 688-9533 or 683-9628

SOUTHERN CALIFORNIA LIVE STEAM CLUB
3rd Sunday each month
3½" – 4¼" – 7½"
K. G. Kepner, Secretary
2764 Maple
Rialto, California 92376

WABASH, FRISCO & PACIFIC
Every Sunday
12" gauge
Grand and First Streets
9.4 miles south of Post Office
Glencoe, Missouri

NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS

TOOLS FOR LIVE STEAMERS IN 1970 CATALOG

A 24-page, fully illustrated catalog offering several new, unusual and extremely useful hard-to-find tools is now available from the Brookstone Company.

The new catalog contains precise and detailed descriptions and applications of each tool in this unique collection. Brookstone tools are rarely found in stores or other catalogs. Among the many new items offered are tungsten carbide saw blades, miniature riffler files, torch lamp, miniature screws, nuts, bolts, washers, stainless steel pliers and hard-chromed needle files.

All are highly professional quality tools and available only by mail. For your copy of the new catalog, send 25¢ to Brookstone Company, 104R Brookstone Building, Peterborough, New Hampshire 03458.

new books

SIMPLE MODEL LOCOMOTIVE BUILDING $ 8.50
The beginners' book of how to build a small Live Steam Locomotive. Highly recommended

MANUAL OF MODEL STEAM LOCOMOTIVE CONSTRUCTION $ 6.50
The standard text on the subject.

GENERAL SHOP METALWORK $ 2.54
Describes the importance of metalwork today.

ENGINE LATHE OPERATION $ 3.90
Concise explanation is given of the construction and operation of the Lathe.

MILLING MACHINE WORK $ 6.80
The clearest and most complete presentation of basic milling machine work we have ever seen.

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Primarily concerned with beginning to use hand metal working tools.

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Description of lathes, discussion of features and how to use them.

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All machine tools used in modern industry.

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How to make and use many accessories on your lathe.

HEAT TREATMENT OF METALS $ 2.50
Clear and simple – metals, furnaces, hardening.

MEASUREMENT – MACHINE SHOP $ 2.50
The basic principles of measurement.

These are but a few of the more than 100 books described in the *1970 CRAFTSMANSHIP CATALOG*. Why don't you order a copy $ 2.00

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Locomotives
1968 Catalog

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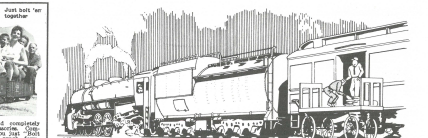

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NOTICE
Receipt of many new drawings makes old list obsolete. Watch for NEW ENLARGED CATALOG in these ads shortly.
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NEW PATTERN LIST NO. 7
¾" – 1" – 1½" scale locomotives and horizontal stationary engine. Send 25¢ with self-addressed #10 envelope with 12¢ postage to
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BUCKEYE
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HEY, NOW! HOW 'BOUT THAT?

I have been a railroad "bug" for nearly 50 years (age 54), progressing through Lionel "Standard" gauge, O gauge, then O gauge scale, OO gauge, HO gauge, then thru a chance acquaintanceship with an English immigrant in 1965 I began to learn of live steam locomotive models. Purchased many books on the subject and subscribed to Model Engineer magazine. After reading M. E. for 5 years and drooling over their beautifully constructed (and apparently technically correct) examples of small steam driven locomotives I am quite baffled at the mish-mash of high sounding technical verbiage which seems to dominate not only the readers' letters but the regular contributors' columns in our Live Steam magazine. Must we, as Americans, do EVERYTHING differently from the rest of the world? England, the homeland of nearly all forms of model railroading, has been building safe, efficient, and powerful live steam locomotives in all the gauges that we do, except 4½" for which they substitute 5". Why then, must we appear to be starting from scratch, if I am to be led by the articles in your magazine? To me, the hoot and holler that has been going on in Live Steam for only too long over the chemical analysis of boiler metals is purely academic. What's the matter with copper?

Unless your magazine shows a strong tendency soon toward becoming something other than a sounding board for the more affluent segment of our hobby I shall find it unrewarding to renew my subscription. You give me the impression that if a fellow isn't working in 1" scale or larger (preferably larger) he is somewhat in the class of the Lionel 027 fan after HO gained power.

EDWARD A. HILLAND
331 SYLVAN AVENUE
GLOUCESTER CITY NJ 08030

THOUGHTS 'BOUT THAT
...from the cupola

It is not our intent or purpose to enter into regular discussions of items presented in the "mail stop" column. Mr. Hilland's previous and current lengthy letters (the closing 1/3 of which is presented here) indicate that it might be well for LIVE STEAM Magazine to list its policies and performance so that there is no further need for time-consuming conversations or correspondence which are carried on without the burden of facts.

LIVE STEAM Magazine's stated purpose is to serve *all Live Steamers and Large-Scale Model Railroaders.*

LIVE STEAM Magazine has no preference for one scale or gauge over another; for one geographical area over another; for subject matter (i.e., locomotive, traction, stationary or marine) so long as it interests Live Steamers and Large Scale Model Railroaders.

LIVE STEAM Magazine *does* prefer to present documented experiences and information rather than opinionated remarks. We present a program in a manner worthy of the time and talent involved in its completion rather than a collection of uninformative, egobuilding *This is a pitcher of me with my engine I built* captions; to receive constructive criticism rather than biased, unfounded complaints.

LIVE STEAM Magazine will not editorially promote overseas or domestic suppliers who will not advertise their products or otherwise assist in the promotion of the Live Steam hobby.

LIVE STEAM Magazine *will* give every assistance to suppliers who make their products readily available to all Live Steamers and provide financial support by advertising in this publication – including those several who invest in a stock of imported materials, prepare a list of the items they make available and advertise in LIVE STEAM Magazine.

LIVE STEAM Magazine does not

pay for material submitted for publication. Noting that Model Railroader Magazine made such a policy during its early days of publication, that Trains Magazine bemoaned the lack of subscribers and advertisers several years after it began, and that the newly-formed Oceans Magazine suspended operations recently for six months because "subscriptions and advertising were not sufficient to support us in a period of profit," we feel no embarrassment in this procedure. We do feel, though, that our readers owe a vote of thanks to those contributors who have kept us supplied *gratis* with a high grade of material to be published.

LIVE STEAM Magazine cannot publish material that it does not receive. If there are no photos of activities in your area, it is only because no one in your area has bothered to send them along. If we never publish any of the vast store of knowledge and experience available from the experts within your circle of acquaintances, it is only because the experts within your circle of acquaintances have not bothered to put it on paper and send it in to us.

In 1969, LIVE STEAM Magazine published 46 photos of 3/4" scale equipment, 11 of 1" scale equipment and 53 of 1½" scale equipment. In those issues a total of 695 column inches were devoted specifically to 3/4" scale, 90" to 1" scale and 300" to 1½" scale; 3/4" scale, then, having preponderance of 7.7:1 over 1" scale and 2.3:1 over 1½" scale. Although a two part article was published giving the advantages of 3/4" scale over larger sizes, not a single instance of "promoting" any other scale or gauge was offered. In all cases, photos of 1½" scale equipment appeared only as a report of activities and the only 1½" scale equipment "featured" was the Brass Lantern Award-winning caboose in the September issue.

To this your editor would add one personal comment: the word *affluent* is one of several catchy words whose true meaning is warped in current journalistic jargon. Although it means "abundantly wealthy, opulent", it is loosely applied to anyone who has managed to save a few hard-earned dollars for his own enjoyment. Its use is out of context in discussion of any hobby.

WILLIAM C. FITT
EDITOR AND PUBLISHER
LIVE STEAM MAGAZINE

When writing to advertisers please mention that you saw them in LIVE STEAM

The Extra Board

Fifteen words or less not including name or address: $2.00 in advance, 10¢ per word for additional copy. No commercial ads of any kind accepted for this column.

WANTED

1½" scale 75¢" gauge 4-8-4 locomotive with tender, must be in good operating condition. Royce Kershaw, P. O. Box 9328, Montgomery, Alabama 36108.

1945 Science & Mechanics Magazines, 6 copies or Oct., and Dec., only. Wm. Lazar, 36 Burnelm Drive., Islington 678, Ontario, Canada.

Old Electric and Wind-up trains, also quality scale "O" gauge. Top cash. Al Stauffer, Route 4, Medina, OH 44256.

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Bound Model Engineer 1935–1962 (54 volumes) maroon buckram, indexed, excellent condition. Binding alone cost $8 each. Offers for lot or part lot from front end. Also unbound 1962–1967. Also 5½" scale 0–4–0 and 2–6–2, 1" scale 2–6–2. Outstanding locos and trucks. Frederick Massey, Box 172, Rothesay, N. B., Canada.

Complete Drake amateur radio station, most items current models. Some items Leica and Bolex photo equipment. Everything immaculate. Will consider trade for machinery, 8 or 12 lb. rail or other items for 3" scale. Calvers Blacketer, P. O. Box 515, Princeton, Ind. 47570.

Little Engines Atlantic and Pacific 1½" scale. Each consists of frame, cradle, driving wheels, spring rigging, lead trucks, trailer trucks, piloe and pilot beam with front coupler. No cylinder blocks, rods or valve gear assemblies. Send inquiries to Mrs. Leo Renfree, 605 Pine, West Memphis, Arkansas 72301.

12" gauge precision built 3400 class Santa Fe steam locomotive, tender and six cars and new rail. Send $1 for photos and details. K. E. Reynolds, 100 S. Tyler Road, Wichita, KS 67209.

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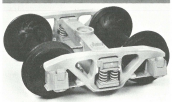

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